from the viewpoints of its enemies, or its prey, as the case may be. (See especially fig. 103 with its explanatory legend.) He also discriminates between the way an animal looks to man and the way it must look to its fellow creatures — *i. e.*, whether the viewpoint is from above or from below, etc., or from the point most vital to the animal. This is perhaps more fully brought out in his recent paper in the 'Popular Science Monthly,' already cited, in which he endeavors to demonstrate that striking and diversified colors tend to concealment, if not at all times, that this is the net result of these supposed conspicuous costumes. The optical hypotheses on which have been based the theories of 'warning-colors,' 'recognition marks,' and mimicry he believes "would never have lived a day had their originators begun by testing them." His contention is that animals are colored to match their backgrounds. "Scarlet and yellow fruit colors, sky-blue and green leaf colors, on the Macaw, are as absolutely the picture of this bird's background while he is dangerously absorbed in feeding in a tropical fruit tree, as is the little terrestrial mammal's brown the picture of the universal earth-brown on which he lives." Nowhere, however, does the author say that the costumes of animals are *for* concealment nor does he attempt to show how or why they came to be as they are. It is, however, said (in a footnote to p. 36): "We ourselves attribute all such to natural selection, pure and simple and omnipotent."

Here and there the explanations and illustrations will doubtless appear to some of Mr. Thayer's readers a little strained and overdone, but they cannot fail to recognize that he has in the main kept well within reasonable bounds, and that he has discovered a key to much that was before contradictory and irreconcilable, and that, as a whole, his work is by far the most important contribution yet made to the subject of animal coloration. — J. A. A.

Howard's 'The British Warblers,' Part IV.[1]— The good things said of Parts I–III of this excellent work are equally applicable to Part IV, which consists mainly of two monographs, respectively of the Whitethroat and Lesser Whitethroat, the former occupying 23 pages of text and the latter 20 pages, each with a colored plate and several photogravures. In addition a colored plate and two pages of text are devoted, respectively, to the Greenish Willow Warbler and the Siberian Chiff-chaff; there is also an excellent colored plate of eggs, illustrating the eggs of eight species of British Warblers, figuring 44 eggs, series of six to eight specimens being given in several instances to show the range of variation.

---

[1] The British Warblers: A History with Problems of their Lives. By H. Eliot Howard, F. Z. S., M. B. O. U. Illustrated by Henrik Grönvold. London: R. H. Porter, 7 Princes Street, Cavendish Square, W. Part 4, December, 1901. Price 21 s. net.

Contents:— Whitethroat, pp. 1–23, 1 colored plate, 4 photogravure plates; Lesser Whitethroat, pp. 1–20, 1 colored plate, 2 photogravure plates; Greenish Willow Warbler, pp. 2, 1 colored plate; Siberian Chiff-chaff, pp. 2, 1 colored plate; Eggs of British Warblers, 1 colored plate; temporary titlepage and contents for Parts 1–4.

The account of the Whitethroat is minutely biographical, but in that of the Lesser Whitethroat discussions are introduced relative to the nature of the excitement manifested by various kinds of birds, which when with young birds are suddenly approached, and of the cause of the local variations in the songs of birds of the same species, of which he details many examples. He inclines to the opinion that climate may have an influence upon the character of song. He says, in concluding this discussion: "Climate could never have been a cause of song, but by some such means [as previously explained] it may have determined the lines along which any particular development has taken place." — J. A. A.

Reed and Wright on the Birds of Cayuga Lake Basin, New York.— In a paper of 80 pages, Messrs. Hugh D. Reed and Albert H. Wright, of Cornell University, give an annotated list of 'The Vertebrates of the Cayuga Lake Basin, New York,[1] with much preliminary matter relating to the topography and meteorology of the region, illustrated with contour and other maps.

The area of the Cayuga Lake Basin is given as "about 1,600 square miles," its meridional length as about 65 miles, with a breadth varying from about 12 to 36 miles. The "basin is, in the main, typically Transitional, although in certain localities there is a trace of the Upper Austral and Canadian." The paper is based mainly on the records of the Zoölogical Department of Cornell University since its opening in 1868 and the personal observations of the authors, which cover the last twelve years; and acknowledgments of assistance are made to various members of the university and others.

The paper consists of an 'Introduction' of twenty pages, followed by the 'Catalogue of Species,' which are numbered consecutively from fishes to mammals, the fishes numbering 65 species, the amphibians 17, the reptiles 20, the birds 257, and the mammals 40. Under 'Life Zones,' in the introduction (pp. 376–379), is a brief analysis of the bird fauna with reference to the zones to which the breeding species properly belong, and later (pp. 386–390) the species are tabulated according to their manner of occurrence, as (1) permanent residents, (2) transient visitants, (3) summer residents, (4) winter residents, (5) of rare occurrence, and (6) accidental visitants. The 'catalogue of the species' occupies pp. 409–453, the annotations comprising a quite full statement as to their manner of occurrence, including migration and breeding dates, and the citation in footnotes of the records of capture of the rarer species. The work is evidently based on careful and extensive research and forms a valuable record of present, and

[1] The Vertebrates of the Cayuga Lake Basin, N. Y. By Hugh D. Reed and Albert W. Wright. Proc. American Philosophical Society, Vol. XLVIII, No. 193, 1909 (1910), pp. 370–459, pll. xvii–xx (maps). From the Department of Neurology and Vertebrate Zoölogy, Cornell University. (Although the cover date is 1909, the dates of printing on the signatures are Jan. 6–8, 1910.)